



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,142	01/22/2002	Joerg Blaessing	12406-020001 / P2001.0799	9,188
26161	7590	10/09/2003	EXAMINER	
FISH & RICHARDSON PC 225 FRANKLIN ST BOSTON, MA 02110			RAMSEY, KENNETH J	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 10/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/055,142	Applicant(s) BLAESSING ET AL.	
	Examiner Kenneth J. Ramsey	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>547</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Non-Prior Art Rejections

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 5-6, 11, 13 and 14 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. No antecedent exists for "the --- electrode strips" claim 4, line 3 or claim 11, line 7. No antecedent exists for "the second electrically conductive layer" claim 5, line 4. Claims 13 and 14 are indefinite since they depend from an indefinite claim.

Prior Art Rejections

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 7-8, 11-12, 15-16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Yano 5,696,523. Yano discloses a process of manufacturing a liquid crystal display comprising a step A) of applying data electrodes 15, a step B) of applying functional (insulation) layers 19C by contact (screen) printing, and a step C) of applying column electrodes 19 by contact (screen) printing a conductive paste. Data electrodes 15 are perpendicular to column electrodes 19; therefore claims 1-2, 7, 8, 11,

Art Unit: 2879

12, 15 and 19 are thus anticipated. As to claim 16, the substrate 17 is transparent and electrode 32 is a transparent conductor, therefore claim 16 is anticipated.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 4, 11-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al 5,427,858 (Nakamura) in view of LaPointe 5,410,217 and Haynes 6,034,481. Nakamura column 10, line 26 through column 12, line 48, discloses a process of forming a transparent first electrode on a transparent substrate by printing, forming an organic luminescent functional layer, and forming a rear electrode by vapor deposition. Nakamura differs from claims 1, 15 and 16 in that it is not disclosed that the printing process of depositing the transparent first electrode can be a contact printing process. LaPointe, column 6, line 33-41 discloses a process of forming

Art Unit: 2879

a luminescent display in which the transparent electrode is formed by contact (screen) printing an ink known as #SS24823. Haynes, column 5, lines 18-20 discloses that #SS24823 is an ITO containing composition. It would have been obvious to one of ordinary skill in the art at the time of applicants' invention to employ screen printing in the printing process of Nakamura since this process applies a uniformly thick layer. As to claim 4, Nakamura, column 22, lines 43-53 discloses the vapor deposition of the second electrode through a mask. As to claims 11 and 12, a screen printable ITO composition would be a paste. As to claims 13 and 14, Nakamura, column 18, lines 54-68 discloses the use of indium-magnesium as the contact electrode. It would have been obvious to one of ordinary skill in the art at the time of applicants' invention to employ a non-noble second electrode such as the indium-magnesium of Nakamura to avoid the cost of the noble metal.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura, Haynes and LaPointe as applied to claim 16 above, and further in view of Falls 3,616,098. Claim 17 adds the limitation that the face of the substrate facing the observer is dulled. This is an obvious and well known process to reduce glare by reflection as shown by Falls. Accordingly, it would have been obvious to one of ordinary skill in the art at the time of applicants' invention to dull the surface of the faceplate in the process of Nakamura as above modified by Haynes and LaPointe.

Claims 2 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura, Haynes and LaPointe as applied to claim 1 above, and further in view of Barnardo et al WO 99/07189 (Barnardo) which was cited by applicant. Claim 2

Art Unit: 2879

recites that the EL device has a matrix of perpendicular electrodes, i.e. row and column electrodes. It is known in the display art that a matrix of row and column electrodes are primarily employed in flat panel TV screens. Claims 7 and 8 further recite that the organic light emission material is deposited by printing. Barnardo teaches a process for printing an organic light emitting material, and states that it has utility in the manufacture of flat TV and computer screens. Since Barnardo cites flat panel displays as an appropriate application of printing an EL panel, it would have been obvious to one of ordinary skill in the art at the time of applicants' invention that the printing processes of Barnardo, Nakamura and LaPointe all have utility in a similar application. Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicants' invention to combine the teaching of Barnardo with Nakamura and LaPointe since the use of printing both the electrodes and organic light emission material would provide a low cost TV display having perpendicular row and column electrodes. As to claims 7-9 which add the recitation of the manner of applying the functional layer, Barnardo et al, page 2, lines 12-13 teaches that spin coating to deposit the functional layer is well known in the art and further discloses that contact printing is an advantages process for depositing the functional organic EL layer since it reduces costs. It would have been obvious to one of ordinary skill in the art at the time of applicants' invention to deposit the organic EL layer of Nakamura as above modified by Haynes and LaPointe by spin coating or contact printing since these are well known and and/or less costly processes for producing the organic EL layer.

Art Unit: 2879

Claims 1-2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 910,128 in view of Lapointe, Haynes and Barnardo. EP patent 910,128, cited by applicants, corresponds to U.S. Patent 6,583,888 and discloses a process of forming perpendicular electrode strips by patterning an ITO layer to form parallel electrode strips, producing strip shaped ridges with overhanging edges that run perpendicular to the electrode strips, depositing organic EL layers on the electrode strips and depositing the second electrode film in step by vapor deposition such that the film is structured by the strip shaped ridges as second electrode strips perpendicular to the ITO electrode strips. The EP patent differs from claim 10 in that it is not disclosed that the ITO strips can be deposited by contact printing. Barnardo, page 8, lines 19-20, discloses that the functional EL layer inks can be deposited by contact printing to reduce costs in the process of making a flat panel TV and computer screens. One of ordinary skill in the art would recognize that this process requires the use of a matrix of perpendicular electrode strips of high resolution. More importantly the EL layer would likewise have to be deposited as strips of the same resolution. Since Barnardo teaches that strips of this resolution can be deposited by contact printing and LaPointe and Haynes teach an ITO ink for depositing by contact printing, it would have been obvious to one of ordinary skill in the art at the time of applicants' invention to form the ITO strips of EP '128 by contact printing since this reduces costs.

Art Unit: 2879

Allowable Subject Matter

Claims 5-6 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.


These claims are allowable since the prior art of record does not teach or suggest producing spacers prior to step B and/or C whereby the spacers prevent contact between the printer and the functional layer in step C.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth J. Ramsey whose telephone number is 308-2324. The examiner can normally be reached on M-F from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (703) 305-4794. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306

KJR


**KENNETH J. RAMSEY
PRIMARY EXAMINER**